

# W5YI

## Nation's Oldest Ham Radio Newsletter REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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Vol. 17, Issue #15

\$1.50

PUBLISHED TWICE A MONTH

August 1, 1995

### ★ In This Issue ★

**FCC to Privatize RFI Handling**  
**Comments: WT Docket No. 95-57**  
**Exam Credit & VE Session Manager**  
**Family Radio Service Proposed**  
**Amateur Call Signs to July 1st**  
**Temp. Operating Commercial Radio**  
**QST Reader Survey Results**  
**STS-70 Astronauts Talk to Students**  
**Micro-Money is Coming!**  
**Consumer On-Line Service News**  
**Windows-95 is Done! Ready to Ship!**  
**National Radio Licensing Authority**  
**1995 Young Ham of the Year**  
**Ham Operator Fights Junk Calls**  
**...and much much more!**

### FCC Looking to Privatize RF Interference Handling

The Federal Communications Commission alone receives approximately 30,000 complaints a year of radio frequency interference to home electronics equipment. And this may only represent 10% or 20% of the problem. Due to the FCC's limited resources, it is not possible for the Commission to resolve these individual RFI problems and it is now Commission policy not to further investigate them. The FCC also does not offer any protection from interference.

According to the Commission, interference to home electronic equipment is a major problem in the United States that they must deal with in order to ensure communications excellence for the American public.

The FCC is now looking into the possibility of having the private sector become involved in resolving these interference problems. The Tampa Office of the FCC's Compliance and Information Bureau is undertaking a pilot project to determine the feasibility of such a program. Canada and Great Britain already have privatized RFI handling.

To get the project underway, a fact-finding meeting was held in Tampa on July 19th. The meeting was moderated by FCC Engineer-in-Charge Ralph Barlow of the Tampa field office with Robert McKinney, EIC of the Vero Beach, Florida assisting. Carol Johnson, FCC Public Affairs Specialist had a folder of pertinent materials waiting for each attendee.

In attendance were representatives from var-

ious electronic repair organizations, the broadcast media (radio, cable and television), manufacturers (we saw representatives from Thomson and Philips Consumer Electronics, ...RCA), appliance retailers and radio operator training/testing organizations (Elkins Institute, Drake and National Radio Examiners.)

The American Radio Relay League did not send official representatives, but two local ARRL members said they were attending on their own. (One was Robert "Rip" Van Winkle AA4HT, a section manager from the ARRL's Southeastern Division, the other, Ron Mettler, WB4GHU who said he was a member of the ARRL Amateur Auxiliary.)

I counted nearly forty people at the meeting. Some were very highly placed ...such as Don Hatton, Vice President of Product Services for the Electronic Industries Association who journeyed in from EIA's Arlington, Virginia headquarters. Robert Jordan, travelled the greatest distance ...from Apple Computer Corp., in Cupertino, CA. All were there to learn how they might fit in the fight against RFI to residential electronic appliances and to offer suggestions.

Barlow said that the new program was part of the administration's initiative of "reinventing government" and improving service to the American people. He called RFI "...a very big problem to the public" which the FCC could not handle alone. "Someone out there has to solve their

# W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #2

August 1, 1995

problems," he said. Resolving interference at the local level "...represents a service opportunity for you ...and will promote jobs."

Some complainants are being told by service companies that "nothing can be done." But Barlow said this was essentially not true. "The FCC will not be your competitor. We will not compete with you. It is a fact that local repair shops can fix most problems."

He told how the telephone industry was putting together new RFI standards. "You may wish to establish liaison with power companies. Cable companies may wish to contract with you to resolve interference complaints for them. Telephone companies may refer customers to you."

Barlow said that the FCC will no longer investigate CB violations of any type and that citizen's band radio rules will no longer be enforced. Barlow noted that most amateur radio interference is resolved by the amateurs themselves. "They are not required to do it." At that point, Fred Marchman, AA4FG of New Port Richey, Florida gave an excellent presentation on his decades long effort and experience at resolving TVI.

The FCC acknowledged that sometimes "uncooperative operators are a problem." The Commission will act on these reports, but Barlow said the FCC wants the RFI complaints to come from authorized service agents and not directly from the public. "Most problems can be resolved at the local level." The two parties involved can be operating their equipment properly and still have a serious interference problem. "Cooperation is often the answer."

VCRs and telephone interference are particularly troublesome. Barlow told about the existence of interference free telephones, two of which were available from Texas distributors who remanufacture existing sets. Broadcast and personal radio stations are most likely to cause telephone interference. An FCC study revealed that while commercial telephone filters cannot be relied upon to eliminate telephone RFI, manufacturers can indeed design telephones to be interference free.

The FCC expects cooperation from the electronics industry and manufacturers and "...you can go to these people for assistance," he said. Barlow told about a survey that was taken on 80 interference complaints reported in May 1995. Information on how to resolve these problems was sent to the complainants, yet 53 out of 80 still had the problem sixty days later. Twenty-five of these people believed that it was the FCC's responsibility to resolve the RFI. More than half (28), however, said they would be willing to pay a serviceman to cure the problem. "People want assistance. It appears that there is a service opportunity out there."

Barlow said. "From this pilot project will spring a national policy." McKinney added "We will not tell you what to charge or how to do it. It will be your plan. If it works, it will be because of you providing training and service."

Many questions remain about compensation to service agents. Some problems may not be able to be resolved, Barlow conceded. "Part 15 devices must accept interference and can not cause interference." The question then came up about the propriety of charging for an RFI service call when there was no easy or feasible answer. Service organizations in attendance agreed they charged for a service call whether or not a repair was performed. "Customers are expected to pay a service call even if the problem can not be resolved for one reason or another."

"Manufacturers may not be doing as well as perhaps they should." It was agreed that more information should be provided to the consumer about RFI susceptibility. "An information tag is perhaps needed." A signal splitter often identifies the problem. A well filtered and shielded television set (the FCC called them "bullet-proof") on one side frequently receives no interference while the in-home set on the other side of the splitter is badly affected. And a more expensive appliance does not necessarily mean that it is less susceptible to RFI.

EIA's Don Hatton seemed to think the RFI problem had been blown out of proportion. He said "Why should everybody have to pay for the relatively small percentage of the public who have a problem." Additional parts often increase retail at five times their cost. I suggested that perhaps the electronics industry could put aside a small amount based on electronic units sold which could be used to fund these "relatively few" reports of RFI. Hatton shrugged his shoulders.

A discussion period followed Barlow's presentation. Once a person is trained, some sort of FCC issued RFI service agent credentials or authorization might possibly be issued which could only be used to identify a trained RFI service person and not enforcement purposes. Certified RFI technicians would have no government authority. There was also a discussion on the impact of RFI service on manufacturers warranties. Some manufacturers only want their service organizations to work on their equipment.

Ralph Barlow closed the meeting - which lasted nearly three hours - by asking for proposals from those in attendance on how a pilot program of privatized resolution of interference to home electronic equipment might best be implemented. Also distributed were various fact sheets and booklets on radio frequency interference handling.

# W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #3

August 1, 1995

## FORMAL COMMENTS FILED ON WT DOCKET 95-57

Formal comments closed July 14th, on a Notice of Proposed Rulemaking which addressed multiple proposals for the amateur service. The NPRM covers:

**EXAMINATION CREDIT:** The ARRL proposed on January 6, 1994, that all amateur operator licenses should be issued for the lifetime of the operator. The League's petition (assigned RM-8418) also asked that the lifetime license be made retroactive to any previously licensed amateur whose license had expired. The objective of this provision was to permit persons with rekindled interest in amateur radio to return to the service without the necessity for relicensing. In their comments, the ARRL said "The number of persons who may benefit from this relief of restrictions is believed to be relatively substantial."

The ARRL believed their proposal would also reduce the burden on the Volunteer Examiner program since previously licensed amateurs would not have to be re-examined. The League concludes that there is no practical difference, in terms of the operating or technical capabilities "...between a person who periodically renews his or her license, but is inactive as a radio amateur, and one who permits the license to expire and later wants to become reinvolved in the benefits of amateur radio."

The ARRL noted, however, that the Commission's proposal was far different from that of the League, "...does not create a lifetime operator license." The FCC proposed in their NPRM to give examination credit for the fewest examination elements necessary for the license class previously held "...but it would not constitute the extension of the operator license itself. While under the Commission's plan, the former licensee will not have to retake the examination elements, the operator license will nonetheless have expired, which is what the League's petition sought to avoid."

The League said "Furthermore, during the period of expiration of the station license, the holder of a lifetime operator license could still operate the station of another licensed amateur who holds a station license. This is not so under the Commission's proposal." The ARRL also believes that the VEC System has no authority to process renewal applications which is to what the FCC's proposal amounts.

The ARRL requested that the Commission not adopt their proposal. "Instead, the Commission should adopt the rule changes proposed in the League's petition, RM-8418, which provides for a lifetime operator license."

The National Conference of VECs, an organization made up of representatives of all VEC organizations,

also asked that the FCC not adopt their proposal, but for a different reason. NCVEC believes that amateurs with long term expired licenses - longer than the current two year grace period - should be re-examined.

"The NCVEC believes there is a fundamental difference between an individual who has let his/her license lapse 'years ago' and an amateur who has kept renewing. The difference is that currently licensed amateurs are more up-to-date on FCC rules and technology. Amateurs who have been away from the hobby for long periods of time will find that the amateur service and its regulations have changed drastically. They should undergo some sort of training or refresher course. The examination syllabus provides the needed curriculum," NCVEC said, "We believe that it is a travesty to assign a ten year term to an amateur operator license and then permit the expired license to be re-activated indefinitely. The purpose of license examinations in the amateur service is to insure that the applicant is reasonably qualified in amateur operations, equipment, technology and regulations. There should be a way to determine if a previous licensee who has been away from the hobby for what could be decades, still possesses the minimum required knowledge. That mechanism is by passing the required examinations."

**VE SESSION MANAGER:** The ARRL opposed the concept of a VE session manager as initially proposed by the National Conference of VECs in a petition for rulemaking filed July 15, 1993. NCVEC said that all VECs utilize the services of a VE who is considered to be in charge and accountable for the proper conduct of the test session. While VE's are organized into teams of three or more persons, it is almost always one examiner who organizes and supervises the activities of the other VEs. This lead examiner usually has custody of the examination materials, submits the test results to the VEC and maintains the session records. ...the lead VE organizes the test session, supervises the VEs and is responsible for the integrity of the test session. It thus follows that the VE who manages the examination session should be more accountable for its conduct and reliability than the other VEs who essentially assist." Three VEs would still be required to conduct all examinations.

The current system holds the three certifying VEs equally accountable in the event of a problem. "This can make enforcement action difficult should an examiner team be found to be knowingly and willfully disregarding or circumventing proper examination practices. Having three examiners certify examinations often divides the responsibility to the point where no one can be held responsible." The NCVEC also pointed out that VE teams often utilize a "production line" system

# W5YI REPORT

## Nation's Oldest Ham Radio Newsletter

Page #4  
August 1, 1995

of more than three examiners at large test sessions and that "...the three VE's who certify the FCC Form 610 application are frequently not the same ones who administered all of the examinations to the examinee."

**SPECIAL EVENT CALL SIGNS:** The NCVEC did not file comments on the remaining three issues since they did not involve examinations. The League believes the FCC's proposal to permit temporary assignment (up to 15 days) of the 780 one-by-one (one letter prefix, the region number, and one letter suffix) call signs "...is a prudent method of administration of the limited call sign block. Use of a 'grant' stamp for requests will permit rapid handling of such requests." The League said that it was not clear if there would be a regulatory fee for the special event call sign, but given its temporary nature and limited number of requests, "...it is assumed that there will be no fee..."

**SELF ASSIGNED INDICATORS:** The ARRL supported the proposed clarification of the regulation which provides for the use of self-assigned indicators before, after or both before and after the Commission-assigned call sign. The W5YI Group suggested that an indicator be added to the others in use for temporary operation while an examinee is waiting for a grant of his Technician Plus license. A temporary identifier was never assigned to Tech Plus holders because, until fairly recently, this was not a class for which a license would be issued and the licensee would have to use the identifier indefinitely.

**CLUB DEFINITION:** The ARRL supports the FCC proposal (for which it originally petitioned) that would increase the number of applicants necessary to constitute a club from two to four members. ARRL believes that this will discourage "...two individuals who simply wish to obtain a distinctive alternate call sign but who do not function as ...a normal amateur radio club." The W5YI Group pointed out that increasing the club eligibility from 2 to 4 club members would not in itself prevent abuse and that at least one family of four had already obtained 23 different club call signs.

### FCC PROPOSES TO ESTABLISH A VERY SHORT DISTANCE TWO-WAY VOICE RADIO SERVICE

The Commission has proposed to establish a very short distance, unlicensed, two-way voice radio service in the UHF portion of the radio spectrum. The FCC said the proposed rules will encourage rapid deployment and growth of inexpensive low power communications equipment for use by groups in which members need to communicate over short distances.

This proceeding was initiated by the Radio Shack Division of Tandy Corporation. Tandy cited a burgeon-

ing public demand for an affordable and convenient means of direct, short range, two-way voice communication among small groups of persons, and asked the Commission to authorize 14 UHF channels for a new service which it calls Family Radio Service (FRS). Tandy stated that it would share seven General Mobile Radio Service (GMRS) channels that are not used for repeater operation, as well as utilize seven channels that are located between certain GMRS channels.

Tandy identified a need by small groups of persons such as families for good quality voice radio communication service having a very short range. The group members would use palm-size dry-cell powered radio units to communicate while on outings, such as visiting shopping malls and amusement parks, attending sporting events, camping, and taking part in other recreational activities. Tandy stated that many persons could benefit from such a new service, particularly for personal security, due to the low cost of the units and the communication capability.

In a related issue regarding interconnection with the public switched (telephone) network (PSN), the Commission proposed not to allow interconnections between FRS stations and the PSN. The Commission stated that it wanted to ensure that the unique niche envisioned for this proposed low power Family Radio Service not be compromised. However, comments are requested regarding whether interconnection with the PSN should be permitted and, if so, any restrictions or conditions that should be imposed.

The Commission agreed that selective calling would enhance the appeal of the FRS by allowing users to answer calls addressed to them without having to also monitor all other communications on the channel. The proposed rules, therefore, allow a supplier the option to provide such a capability if it desires. Comments advocating rules mandating a Commission-specified interoperable selective call standard should provide proposed technical standards suitable for inclusion in rules.

The above, is the text of a news release issued by the FCC on July 17, 1995. The actual proposed rules for the new Part 95/Subpart "G" Family Radio Service (which we covered in our Aug. 1, 1994, Report) have not yet been published by the Commission.

The original petition (RM-8499) was filed by Jessie "Mac" Slayton, (he is also WB5NGT), Manager, Regulatory Affairs for Radio Shack on July 20, 1994. It asked that 14 UHF channels be allocated at 462/467 MHz using 500-milliwatt hand-held FM radios smaller than a CB. Tandy has already conducted extensive tests of the new service at the Disney World theme park in Orlando. We plan a complete wrap-up on the Family Radio Service in our next issue. Stay tuned.

# W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #5

August 1, 1995

## AMATEUR RADIO CALL SIGNS

...issued as of the first of July 1995:

Radio	Gp."A"	Gp."B"	Gp."C"	Gp."D"
District	Extra	Advan.	Tech/Gen	Novice
Ø (*)	AAØYM	KGØYF	(***)	KBØTFM
1 (*)	AA1NW	KE1CJ	N1VMF	KB1BSX
2 (*)	AA2YB	KG2DH	(***)	KB2VEV
3 (*)	AA3MC	KE3UD	N3VSJ	KB3BJX
4 (*)	AE4KB	KT4AM	(***)	KF4BKY
5 (*)	AC5DP	KK5QZ	(***)	KC5POU
6 (*)	AC6OK	KO6XW	(***)	KE6VTW
7 (*)	AB7LI	KJ7PS	(***)	KC7MBY
8 (*)	AA8UB	KG8SR	(***)	KC8AIK
9 (*)	AA9PJ	KG9DI	(***)	KB9KZC
N. Mariana Is.	KHØS	AHØAW	KHØED	WHØABC
Guam	WH2P	AH2DA	KH2OF	WH2ANM
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii	(**) AH6OD	WH6NR	WH6CWI	
Kure Is.		KH7AA		
Amer. Samoa	AH8O	AH8AH	KH8CJ	WH8ABB
Wake W. Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska	(**) AL7QC	(***)	WL7CNX	
Virgin Is.	WP2R	KP2CF	NP2IG	WP2AHY
Puerto Rico	(**) KP4ZU	(***)	WP4NAB	

\*=All 2-by-1 "W" prefixed call signs have been assigned in all radio districts. Group "A" 2-by-2 format call signs from the AA-AK block are now being assigned.

\*\*=All Group A (2-by-1) format call signs have been assigned in Hawaii, Alaska and Puerto Rico. 2-by-2 format call signs are now being assigned.

\*\*\*=Group "C" (N-by-3) call signs have now run out in all but the 1st and 3rd call district. According to the rules Technician, Tech Plus and General class amateurs are next assigned Group "D" (2-by-3 format) call signs.

- The FCC has added the numeral 7 (in addition to 6) to the sequential call signs available to Hawaii ...and the numeral 3 (in addition to 4) for Puerto Rico. But so far, they have not begun issuing them.

[Source: FCC, Gettysburg, Pennsylvania]

- The FCC has advised us that preliminary plans on changing the Commercial Radio Operator question pools call for:

Element:	Release Date:	Effective Date:
7 & 9	Sept. 1, 1995	Nov. 1, 1995
1, 3 & 8	Oct. 1, 1995	Dec. 1, 1995
5 & 6	Nov. 1, 1995	Jan. 1, 1996

Elements 7 & 9 are needed for the GMDSS Operator/Maintainer licenses. Element 1 covers Maritime radio law, Element 3=Electronics, Element 8=Marine radar ...and Element 5 & 6=Basic/Advanced Radiotelegraph. A Public Notice announcing dates is expected shortly.

## TEMPORARY OPERATING PRIVILEGES FOR COMMERCIAL RADIO OPERATORS APPROVED

Effective July 1, 1995, persons who have passed the required examinations and have applied for a commercial radio operator license, permit, certificate or endorsement may immediately begin performing these functions on a 90 day temporary basis while awaiting receipt of their license.

On June 13, 1994, the FCC adopted a Notice of Proposed Rulemaking which provided a mechanism whereby commercial radio operators could begin work immediately. The types of licenses affected are the Marine Radio Operator Permit, General Radiotelephone Operator License, Global Maritime Distress and Safety System Radio Operator and Maintainer's license, First, Second and Third Class Radiotelegraph Operator's Certificates and the Radar Endorsement. While the new Part §13.9(d) rules only mentions "licenses," an FCC official said that word also encompassed "...certificates, permits and endorsements."

Previously, an applicant had to wait up to two months to receive their license from the FCC's Gettysburg, PA licensing facility before they could begin performing the function authorized by passing the required examinations.

The National Association of Business and Educational Radio, Inc. (NABER filed supporting comments on the proposal stating that "...many commercial radio operator license applicants need their license as a condition of employment and that the proposal would permit many people to commence work immediately after they receive their Proof-of-Passing Certificates (PPCs).)

NABER also suggested that the time period an individual has to apply for a commercial radio operator license be reduced from 365 days to 60 days. The FCC did not adopt this recommendation stating "Many licenses require an applicant to pass multiple examination elements, some of which are complex. Shortening the period to apply for a license would limit an applicant's flexibility to prepare and qualify for a license."

The new Part 13 rule amendments provide that possession of the PPC document will activate a 90 day commercial radio operating authority while the license is in the process of being granted. For purposes of making log entries as required by Part §13.19(c), the amended rules require an operator awaiting FCC action on an application to enter the PPC serial number and date of issue in place of the FCC-issued license serial number and expiration date. "Our decision," the FCC said, "will increase the availability of licensed commercial radio operators by eliminating the license processing delay inherent in the current licensing system." (FCC Report and Order, PR Docket 94-58)

# W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #6

August 1, 1995

## THE QST 1995 READEX READER SURVEY RESULTS

...were recently sent to all QST advertisers. Readex, a Minnesota based survey company, collected data via a mail survey sent to a systematically defined sample of ARRL domestic members from April 21, 1995 to June 5, 1995. Readex has calculated a  $\pm 3.4\%$  margin of error at 95% confidence level.

<u>Class of License Currently Held:</u>	<u>Total</u>
<u>Surveyed:</u>	<u>Amateur Service:</u>
Novice:	2%
Technician:	13%
Tech. Plus:	13%
General:	17%
Advanced:	28%
Extra:	26%
	14.3% 19.6% 20.0% 19.8% 17.0% 10.3%

We assume this means that ARRL members generally hold higher classes of amateur operator licenses than the amateur community in total. 71% of those surveyed held General and higher class tickets - while 54% of all amateurs hold a Tech Plus or lower class license. Only about a quarter of the amateur population hold an Advanced or Extra Class ticket, yet more than half of the survey came from this segment.

### Length of (QST) Publication Receipt:

Less 3 years:	19%	10 to 19 years:	22%
3 to 4 years:	13%	20 to 29 years:	12%
5 to 9 years:	15%	30 or more:	19%

Although most growth in the Amateur Service has come in the last five years, more than half of all surveyed readers have been an ARRL member more than ten years.

### Estimated Household 1995 Pre-Tax Income:

No answer:	9%	\$50K - \$75K:	25%
Less the 30K:	19%	\$75K - \$100K:	11%
\$30K - \$50K	26%	\$100K & more:	11%

Nearly half of those surveyed have annual incomes exceeding \$50,000.

### Receipt of Other Publications:

CQ: 31%, 73: 20%, Worldradio: 14%  
All others - including this newsletter - 3% to 6% each.

### Sources of Amateur Radio Equipment Purchases:

Mail/Telephone Order:	69%	Private Parties:	26%
Local Dealer:	50%	Other:	3%
Hamfest/Convention:	45%		

### Actions Taken as a Result of Advertisements:

Purchased mail/telephone:	47%
Contacted Dealer:	45%
Discussed Ad w/Others:	45%

### Amateur Radio Software Currently Owned:

Digipeater/Packet:	46%	License Study:	29%
Callsign database:	30%	Logging:	26%
70% of those surveyed use amateur radio software.			

### On-Line Services Accessible at Home or Work:

Internet:	29%	America-Online:	15%
CompuServe:	17%	Prodigy:	10%
One or more:	48%		

### Regular Operating on or Listening to Bands:

2 meters:	84%	80 meters:	55%
40 meters:	67%	15 meters:	53%
20 meters:	65%	450 MHz:	36%
10 meters:	59%	17 meters:	29%

### Modes Used:

FM:	79%	CW:	54%
SSB:	79%	Packet:	40%

### Amateur Radio Equipment Currently Owned:

HF Transceiver:	85%	VHF/UHF Batt. Pk:	53%
VHF/UHF FM:	81%	Other HF Access.:	49%
HF Dipole/Vert. Ant.:	77%	Tower:	42%
VHF/UHF Mobile Ant.:	69%	HF Beam Antenna:	40%
Mob. VHF/UHF Trans:	67%	VHF/UHF Access.:	40%
Antenna Tuner:	67%	Packet TNC:	40%
VHF/UHF Base Ant.:	62%	HF Power Amplifier:	35%
VHF/UHF Trans.:	59%		

### Spent on Amateur Station Equipment Past 12 Mos.:

\$1,000 or more:	19%	\$100-\$249:	17%
\$500-\$999:	17%	Under \$100:	0%
\$250-\$499:	20%	Nothing:	1%

### Typical Hours/Month Devoted to Amateur Radio

20 or more:	24%	5 to 9:	21%
15 to 19 Hrs.:	11%	1 to 4:	21%
10 to 14:	19%	None:	3%

### How do you Rate QST for Covering Your Interests?

5-Excellent:	31%	2:	4%
4:	30%	1-Poor:	2%
3:	22%		

### Last 4 Issues Saved for Future Reference:

Saved all four issues: 82%

### Do you Own a Personal Computer?

Yes: 81% No: 19%

### If an IBM-compatible, do you have Windows?

Yes: 70% No: 18%

### Do you have a CD-ROM Drive in your PC?

Yes: 50% No: 49%

### How long have you been a Radio Amateur?

40 or more:	16%	5 to 9:	11%
30-39 Years:	18%	3 to 4:	10%
20-29:	12%	1 to 2:	9%
10-19:	21%	Less/1:	3%

### Important factors when purchasing Equipment:

Best price: 54% Service: 48%

Dealer Reputation: 50% Return Policy: 39%

(Rated a "5" as very important on scale of 1 to 5. Most said saving sales tax was not that important.)

# W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #7

August 1, 1995

## SHUTTLE ASTRONAUTS SPEAK WITH STUDENTS

The STS-70 Space Shuttle Discovery was launched flawlessly Thursday morning, July 13, from the Kennedy Space Center, Cape Canaveral, Florida on an 8 day mission. On board were two ham operators, astronauts Don Thomas, KC5FVF, and Nancy Curie, KC5OZX.

The crew of STS-70 accomplished the main objective of their flight later on in the day with the trouble-free deployment of a NASA communications satellite. The Tracking and Data Relay Satellite-G was the sixth and last to be deployed from a space shuttle.

The TDRS System is a series of geostationary satellites in fixed positions above the Earth which relay continuous tracking and data communications for the shuttles and other satellites. Without the TDRSS network, communications could only be accomplished when the spacecraft was within view of a ground tracking station.

After the satellite was in orbit, shuttle ground operations were moved to a new facility. Flight controllers vacated the current Mission Control room which has been used for three decades ...since Gemini 4 in 1965. The next shift of flight controllers were the first to operate from the new Mission Control Center, and all further on-orbit operations for STS-70 and future flights will be performed from the new control room. Until early next year, however, launches and landings still will be handled from the old Mission Control.

Amateur radio operators from around the world gathered on 2-meters, hoping to make contact with STS-70. Some of these amateurs volunteered to assist student groups who have prepared questions to ask the astronauts via the ham radio airwaves.

It is NASA's intent by making astronauts available for SAREX, the Shuttle Amateur Radio EXperiment to involve the largest possible numbers of people, particularly youngsters, in technology and the U.S. space program through the help of amateur radio.

Using a small ham radio station aboard the shuttle, the crew talks directly with students and teachers in their classrooms. The equipment configuration for STS-70 included both FM voice ...and automated packet radio which operates in an unattended "robot" mode during astronaut working and sleep periods. Mission Specialist Donald A. Thomas, KC5FVF previously used ham radio from the Space Shuttle Columbia during STS-65 in July 1994. Amateur Radio has been flying aboard the shuttles since 1983.

The crew use separate receive and transmit frequencies. The FM voice is downlinked direct on 145.55 MHz. Uplinks are at 144.91, 144.93, 144.95, 144.97, and 144.99 MHz (144.70, 144.75, and 144.80 MHz while over Europe.) Packet uplink: 144.49 MHz.

A handful of schools were selected to make pre-arranged contacts with STS-70. Several of these school group contacts were performed using AMSAT's worldwide network of telebridge stations. The telebridge allows students to talk to the astronauts through a remote ground station that is linked to the school though a phone bridge.

The following schools were selected by the SAREX Working Group for a scheduled radio contact with the STS-70 mission: Hook Elementary (Troy, OH), Concord High School (Concord, NH), Schenectady Museum Amateur Radio Station (Schenectady, NY), Euclid High School (Euclid, OH), Milford High School (Highland, MI), ITT Technical Institute (Grand Rapids, MI), Gulf Middle School (New Port Richey, FL), Fallbrook Union High School (Fallbrook, CA), and the Collegio San Nicolas (Venado Tuerto, Argentina.)

NASA astronauts successfully setup the amateur radio equipment aboard the Space Shuttle Discovery on Friday, July 14. During a successful check pass on orbit 17, volunteers at the Johnson Space Center Amateur Radio Club station, W5RRR, made contact with the crew as the shuttle orbited over Houston, Texas. Astronaut Don Thomas, KC5FVF said "Tell everyone hello and thanks to all of the SAREX volunteers, who are doing really great work!" Don began calling CQ right after the test pass and began working other stations on voice. The SAREX team reported that the crew was also very active on packet using the call sign W5RRR-1.

Later on orbit 22, the crew had their scheduled contact with at the Collegio San Nicolas in Venado Tuerto, Argentina. The students got to ask 21 questions to astronaut Don Thomas during their horizon-to-horizon SAREX pass. Over 200 people participated in the event which was covered by four nationwide television stations and 25 print media organizations.

To receive a QSL card, send reports to ARRL EAD, STS-70 QSL, 225 Main Street, Newington, CT 06111-1494, USA. Include the following information in your QSL or report: STS-70, date, time in UTC, frequency and mode (FM voice or packet). In addition, you must also include a SASE using a large, business-sized envelope if you wish to receive a card. The Sterling Park Amateur Radio Club in Sterling, VA has generously volunteered to manage the cards for this mission.

The Shuttle Amateur Radio EXperiment (SAREX) is sponsored by the American Radio Relay League (ARRL), The Radio Amateur Satellite Corporation (AMSAT) and The National Aeronautics and Space Administration (NASA). SAREX is supported by the Federal Communications Commission (FCC). (Compiled from many reports, especially those of KH3HDO and NQ1R.)

# W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #8

August 1, 1995

- Charge up the Cash Card! Electronic micro-money is coming. You simply load up a debit card at your local ATM and use it like bills and coin. Merchants use a calculator-like terminal to download payment for purchases. A small LCD tag lets users easily read their balance. You can even load reserve funds into your own electronic cashbox "wallet" for later transfer to your card. Anyone can accept the microfunds by simply transferring cash from anyone's card to your wallet.

It is already available in Great Britain. Called Mondex, inventors expect to make "big bucks" by investing the "float" ..the walking-around cash dispensed to cards, but not yet used. A computer keeps track of outstanding pocket change and charges interest daily.

An interesting feature is that cards can also be filled over specially adapted telephones. And those same phones allow you to wire (transfer) funds from one card to another. A neat safety feature is that if your card is lost or stolen, you can call the bank and stop payment. The culprit is identified at the point of purchase.

- More and more newbies are logging onto the Internet's World Wide Web from commercial online services such as Prodigy, America Online and CompuServe. Surfing the net from a consumer service is something that only started in earnest this year.

Actually Delphi was the first commercial online service to offer Web access, but it was only text. Delphi is now in the process of relaunching as an entirely new multimedia Internet-based service using Netscape software now that it is owned by Rupert Murdoch's NewsCorp.

All services employ a browser that is basically a reworked "Mosaic," the multimedia public domain software viewer that was originally funded ten years ago by the government through the National Science Foundation.

AOL and CompuServe handle graphics better than Prodigy, but Prodigy's Web is easier to use. Soon the entire Prodigy service will look like the WWW as all content gets "hyperlinked." AOL already offers direct links to the Web from various offerings. CompuServe's

Web offering is actually an add-on feature to its regular service. It has the advantage of allowing different browsers to be used. All will shortly offer 28.8 Kbps speed.

The biggest unknown is the Microsoft Network. It is not even available yet and already MSN is impacting the online world as competitors brace for the onslaught from Windows-95 by offering promotions, price-cuts, free time, and improvements.

The August 1995 issue of Net-Guide says that the best Web handling ability comes from AOL. Second best: Prodigy due to its simplicity.

- Windows-95 has gone Gold! The golden master is the final version that is released for duplication. Programmers celebrated the Win-95 code completion with a gala champagne party at Microsoft's campus on Friday, July 14.

It cost \$400 million to develop the product which consumes 40 MB of disk space. The Wall Street Journal said "As recently as two months ago, the company was sending out a revised version of the code to testers of its trial versions every day, each containing fixes for 90 to 120 bugs." Microsoft plans to release a list of about 200 applications that do run well - or at all - under Windows-95.

"The release of Win-95 to manufacturing is the culmination of many months of incredible effort by the development and test teams at Microsoft," said Brad Silverberg, senior vice president of personal operating systems at Microsoft. "Hundreds of thousands of customers, and the broadest spectrum of the personal computer industry have participated in this effort. We're excited!" he said.

Full scale production of manuals and product packaging began more than a month ago to insure availability once the masters were completed.

Five outside production companies will duplicate and assemble Win-95 at 12 facilities in Georgia, Indiana, Massachusetts, Ohio, Tennessee, Utah and Washington ...in addition to Microsoft's own two plants in Bothell, Wash., and Puerto Rico. Fifty million copies will be churned out by opening day!

Win-95 will flood the shelves of every software outlet worldwide on Aug.

24. Windows-3.1 users can expect to pay a street price of around \$88+ which is about wholesale cost (list is \$109.) Many stores are already taking orders ...and some will lose money by using it as a loss leader.

Also on the same day, the computer industry will begin including Win-95 with their PCs. Compaq will include both Windows 3.1 and Win-95. IBM: their OS/2 operating system plus both Windows versions.

A massive kickoff is planned at the company's Redmond, Wash., campus on the Aug. 24 launch date which will be downlinked via satellite to 40 cities across the United States. A customer Internet "online event" is also planned at Microsoft's Web page at: <http://www.microsoft.com/windows/>.

A survey by Windows magazine indicates that half of the current (80 million) Windows users will upgrade within six months ...and 80% within a year. Dataquest research says 33 million will be sold by year end ... about \$3 billion worth! By 1998, 100 million will be sold every year. Mindboggling bucks!

Win-95 has been described as the death knell of competition, especially Apple Computer and IBM. (Apple and OS/2 have only a 10% market share.)

Strangely, the Justice Department is still considering whether to allow Microsoft to include its online service, the Microsoft Network with Win-95. MSN is different from free Internet Access which is also included. To prepare for any eventuality, Microsoft made two sets of gold masters. A contingency plan has one set with an internal software switch to disable MSN access.

Microsoft may have to remanufacture its Win-95 CD-ROM and diskette versions if the DOJ issues a federal injunction prohibiting Microsoft Network inclusion. It is fast getting to the point of no return. If the ruling comes after manufacturing has begun, Microsoft will argue that the court should not grant the injunction since it would be overly burdensome and costly ...given its massive production plans.

Win-95 got its start nearly 2 years ago when it was called Windows-4.0 ...then came the "Chicago" code name and later: Win-95. Microsoft's 1995 sales are estimated at \$6 billion and profit: \$1.5 billion.

# W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #9

August 1, 1995

- The U.S. Postal Service does not want to be left out of the online revolution. As the Internet commercializes, it sees itself as a "certification authority." The post office is beginning a six month trial of electronic postmarking and certification. The idea is to be sure that when you get an e-mail message or other online document, that it is from the person or company that is claimed. The "digital signature" system is based on a public cryptographic key unlocking communications encrypted with a closely guarded private key.

- You can forget about reaching Congress by e-mail. They may be all for the Information Highway, but - so far - they don't or can't travel it effectively. According to the Wall Street Journal, less than a third of all Senators and Representatives have e-mail addresses. Those who do, get so much electronic correspondence from constituents that they can't keep up with it. And legislators who don't have e-mail capability have to get on a long waiting list just to get the necessary software and e-mail address from the House Information Systems Office.

- Rather than pay regulatory (or "user") fees, the National Association of Broadcasters wants to slash the federal deficit by auctioning off radio spectrum held by the federal government. NAB believes that the feds control 86% of all spectrum.

Government spectrum (unlike non-government frequencies which are allocated by the FCC) are assigned by the Interdepartment Radio Advisory Committee. IRAC is made up of all federal departments, agencies and the military.

The National Telecommunications and Information Administration is the Dept. of Commerce office that oversees all telecommunications for the White House. NTIA says the NAB contention is dead wrong. The government only has exclusive use of 1.42% of usable spectrum and shares 93.1% of its allocations with non-government users.

- The FCC has resolved a dispute on dividing up the 28 GHz band. Microsoft's Bill Gates and cellular pioneer Craig McCaw want to launch 840 satellites to form a global Internet-in-the-sky called Teledesic that would allow hand-

held communications. LDMS (Local Multipoint Distribution Service) backers want to provide lower cost "wireless cable" service to apartments. A compromise has been reached whereby both will get a slice of the disputed band. The LMDS allocation will permit 42 TV channels in each of 500 markets.

- Many Internet Service Providers are at odds with local phone companies. They say the telcos have long delays and present various obstacles to their getting needed telephone lines. The ISPs believe these road blocks are showing up due to the current deregulatory environment which will allow the phone companies to get into the Internet business themselves.

- The popular Yahoo Internet Directory is going commercial and will be taking on a new graphic look! The free guide to the net which was started at Stamford University by two students (Jerry Yang and David Filo) has begun accepting advertising. Five advertisers will each pay \$20,000 a month for three months to gauge its effectiveness. Yahoo (which will stay "free") gets 250,000 "hits" every day from users seeking Internet addresses ...more "readership" than provided by most large print advertising media.

- Another Internet anti-censorship bill has been introduced into the House. The "Internet Freedom and Family Empowerment Act" proposed by Representatives Chris Cox (D-Calif.) and Ron Wyden (D-Ore.) aims to "...preserve the vibrant and competitive free market that presently exists on the Internet and other interactive computer services unfettered by State or Federal regulation." The bill places emphasis on parental rather than government control.

- To combat some of the Win-95 hype, Apple is launching a new \$2,000 Performa 5200CD personal computer with a 15" screen (instead of the industry standard 14"), a 75 MHz PowerPC brain, 8 MB of RAM and an 800 MB hard drive. And it comes loaded with software ...including Internet access! An inexpensive hardware module allows the PC to turn into a videotape editor, play digitized movies

or even a standard TV set. The minus factor is that far fewer application programs are available for the Mac.

- E-mail eventually to give way to V-mail? Products are becoming available that will let you attach a 15-second video clip (an .AVI file) clip to e-mail. Easy-to-install kits can turn your network-connected PC into a video phone. And video conferencing and capture products are on store shelves.

- Jim Wills, N5HCT, Tyler, TX the amateur who got "Vanity" call signs enacted, has sent a very controversial letter to Newt Gingrich, Speaker of the House of Representatives.

He suggests "A quasi-governmental, self-governing and self-funding tax-free organization could be created to handle all the duties of the FCC pertaining to amateur and commercial radio licensing with each VEC holding one seat and having one vote on the board. One member from the amateur radio community at large and one member from the commercial licensed operators at large could be appointed by the Telecommunications Sub-Committee for a specified term, say 6 years, to sit on the board with full and equal voting authority as other board members. The Sub-committee would maintain oversight jurisdiction."

Wills recommends that the Amateur Service and commercial radio licensing be removed from the FCC and placed under the auspices of the National Volunteer Examination Coordinators along with all power of enforcement and responsibility to govern and control amateur radio activities and commercial radio licensing.

The new emerging organization would be called the National Radio Licensing authority (NRLA) and would be supported by fee collection for services rendered. Wills asks that "...all pertinent assets including hardware and software, rules and historical files be transferred to the NRLA. ...All NRLA rulings would carry the full authority of the U.S. Government. All enforcement problems that NRLA could not handle would be turned over to the Justice Department for implementation. ...By taking this action, the FCC could devote its full time efforts and resources to whatever it does."

# W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #10

August 1, 1995

## 1995 "YOUNG HAM OF THE YEAR" AWARD

Bryce Duncan, NØYDI, and Toby Metz, KB7UIM,  
Honored Along with Winner Adam Weyhaupt, N9MEZ

The 1995 "Young Ham of the Year," 15-year old Adam Weyhaupt, N9MEZ, was selected from a pool of three finalists in the annual competition to honor America's outstanding young amateur radio operator. He is the third winner in five years from the St. Louis area. The other finalists were 18-year-old Bryce Duncan, NØYDI, of Red Wing, Minnesota, and 14-year-old Toby Metz, KB7UIM, of Meridian, Idaho.

Weyhaupt was honored for demonstrating extraordinary skills in communication, organization and leadership during the course of a major disaster and a major amateur radio public service event. During the Midwest floods of 1993, Adam, then age 13, was in charge of scheduling hams for round-the-clock emergency communications and also acted as net control for the disaster communications net in his area.

The following year, Adam was a key organizer of amateur communications for the U.S. Olympic Festival, held in St. Louis, Mo. This is a 15-day event comprised of 35 sports events held at 25 different locations spaced up to 90 miles apart. Currently, he is the Net Manager of his local Amateur Radio Emergency Service (ARES) new and a net control and weather spotter for the National Weather Service's Skywarn network. He also edits a regional Skywarn newsletter.

Weyhaupt was nominated by David Cornell, K9BO, of Elsah, Illinois. He is entering his junior year at Marquette Catholic High School in Alton this fall, and hopes to become a meteorologist -- a choice he says was greatly influenced by his amateur radio activities and his participation in Skywarn. Adam lives with his parents, Gil (KA9YAW) and Teresa Weyhaupt, and two younger sisters, Ann and Ellen. He has been a ham radio operator since 1991.

Both of the remaining finalists combined amateur radio activity with Scouting activities. Bryce Duncan completed his Eagle Scout requirements by designing and supervising the construction of a new emergency communications facility at his local Red Cross headquarters. Every prospective Eagle Scout must plan and coordinate a community service project in order to attain Scouting's top rank.

Bryce is also active in the Civil Air Patrol and -- like Weyhaupt -- is a trained Skywarn weather spotter. He was nominated by Robert L. Cole, KGØMJ, Disaster Services Chairman for the Red Wing Red Cross and ARRL Emergency Coordinator for their area.

Toby Metz is also using ham radio as a key element of his Eagle Scout service project. He is teaching amateur radio to hearing-impaired students at the Idaho School for the Deaf, and is organizing the construc-

tion of a computerized "packet" radio station at the school.

His work there has been recognized by Miss America, Heather Whitestone, who is deaf. Also, during the 1994 Jamboree on the Air (an annual ham radio & Scouting event), Toby ran a youth net from an encampment of 600 Boy Scouts. He organized the participation in the net of former astronaut Dr. Tony England, WØORE, the Lieutenant Governor of Idaho and the Chief Scout Executive of the United States. He also linked the net, via phone patch, to Boise, Idaho's sister city, Chita, Russia, where the mayor and 50 Russian children took part. Toby was nominated by Richard L. Dees, AA7WG.

According to Dees, Toby's goal is "to make a difference." What sets apart Toby's, Bryce's and Adam's nominations from the many others received, says award administrator Bill Pasternak, WA6ITF, is that "they are already making a difference by using amateur radio to accomplish something of significant value for their communities."

As "Young Ham of the Year," Weyhaupt will receive -- courtesy of Yaesu USA -- a new radio and a free trip to the 1995 Huntsville (AL) Hamfest on Aug. 18-20, where his award will be formally presented. CQ will treat Adam to a VIP tour of Spacecamp Huntsville and a complimentary one-year subscription to CQ magazine. The Young Ham of the Year award is jointly sponsored by the Pasternak's Saugus, California based Amateur Radio Newsline, Yaesu USA Corporation of Cerritos, California and CQ Communications of Hicksville, NY.

CQ Publisher Richard Ross, K2MGA, noted that "the accomplishments of these young people, and their willingness to help others, bodes well for the future, both of amateur radio and the youth of our country."

## HAM OPERATOR FIGHTS JUNK SALES CALLS

According to the Los Angeles Daily News, Robert V. Arkow, WA6HMC of Canyon Country, California has earned \$6,000 over the past year and a half from firms that call his house after he has told them to take his name off their telemarketing lists.

Arkow belongs to Private Citizens, Inc., a nationwide watchdog group based in a Chicago suburb. Their phone number is 1-800-CUT-JUNK. For twenty bucks a year, they include you in their "do not call" directory that is sent to some 1,400 telemarketing companies. This formal notice advises firms that it will cost them \$500 if they bother their subscribers with junk sales calls. Bank of America and Prodigy Online Services are two firms from which Arkow recently received settlements.